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European seismological data exchange, access and processing: current status of the Research Infrastructure project NERIES

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The EC Research infrastructure project NERIES, an Integrated Infrastructure Initiative in seismology for 2006-2010 has passed its mid-term point. We will present a short concise overview of the current state of the project, established cooperation with other European and global projects and the planning for the last year of the project.

Earthquake data archiving and access within Europe has dramatically improved during the last two years. This concerns earthquake parameters, digital broadband and acceleration waveforms and historical data. The Virtual European Broadband Seismic Network (VEBSN) consists currently of more then 300 stations. A new distributed data archive concept, the European Integrated Waveform Data Archive (EIDA), has been implemented in Europe connecting the larger European seismological waveform data. Global standards for earthquake parameter data (QuakeML) and tomography models have been developed and are being established. Web application technology has been and is being developed to make a jump start to the next generation data services. A NERIES data portal provides a number of services testing the potential capacities of new open-source web technologies.

Data application tools like shakemaps, lossmaps, site response estimation and tools for data processing and visualisation are currently available, although some of these tools are still in an alpha version. A European tomography reference model will be discussed at a special workshop in June 2009. Shakemaps, coherent with the NEIC application, are implemented in, among others, Turkey, Italy, Romania, Switzerland, several countries. The comprehensive site response software is being distributed and used both inside and outside the project.

NERIES organises several workshops inviting both consortium and non-consortium participants and covering a wide range of subjects: ‘Seismological observatory operation tools’, ‘Tomography’, ‘Ocean bottom observatories’, ’Site response software training’, ‘Historical earthquake catalogues’, ‘Distribution of acceleration data’, etc. Some of these workshops are coordinated with other organisations/projects, like ORFEUS, ESONET, IRIS, etc.

NERIES still offers grants to individual researchers or groups to work at facilities such as the Swiss national seismological network (SED/ETHZ, Switzerland), the CEA/DASE facilities in France, the data scanning facilities at INGV (SISMOS), the array facilities of NORSAR (Norway) and the new Conrad Facility in Austria.